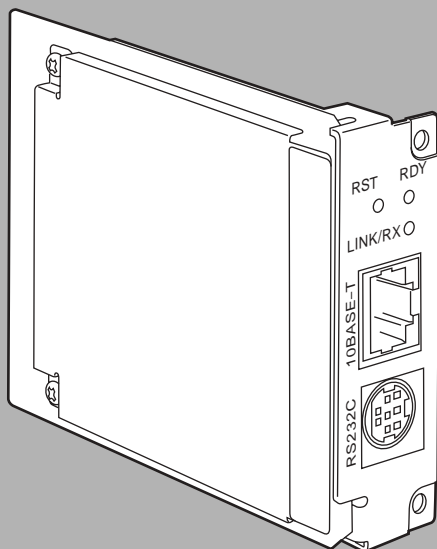


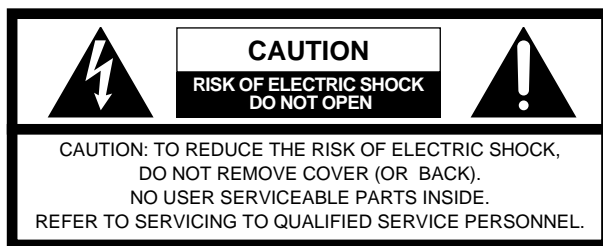
Operating Instructions

WEB card
AW-PB309P



Panasonic®

Before attempting to connect, operate or adjust this product, please read these instructions completely.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.


CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC Note:

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

 indicates safety information.

Contents

Introduction	3
Precautions for use	3
Before use	4
Parts and their functions.....	4
Installation	5
System upgrading.....	6
Image display method	9
Config screen	10
Passwords	12
Pan/tilt head and camera control	15
Server functions.....	15
External dimensions drawing	15
Before requesting service.....	16
Specifications and accessories.....	17

Introduction

- When the AW-PB309 WEB card is installed in the AW-E300, 600 or 800A convertible camera, JPEG compression is implemented for the camera's images, the images are converted into IP packet data after which they can be delivered over a network.
- The image quality and size can each be set to one of three levels.
- The images can be viewed by a personal computer using a regular browser which means that no special plug-in software is required.
- By combining the convertible camera with the AW-PH350 indoor pan/tilt head, the pan/tilt head and camera can be controlled over the network.
(A dedicated software cable is required. Contact your local dealer for details.)

Precautions for use

- **Turn off the power before connecting or disconnecting the cable!**
Before connecting or disconnecting the cable, ensure that the power is turned off.
- **Handle the card carefully!**
Do not drop the card or subject it to strong shock or vibration. Doing so may cause malfunctioning.
- **Use the card in locations with a low humidity and minimal dust.**
Avoid locations with a high humidity or high dust concentrations where the internal mechanism is more susceptible to damage.
- **Use the card within the operating temperature range!**
Avoid using the card at temperatures below 14°F (–10°C) or above 113°F (+45°C) since the picture quality will deteriorate and/or the internal parts will be adversely affected.

Before use

Since the WEB card is a device which is connected to a network, read through the following points to ensure proper use.

1) The image updating interval is not a fixed one.

- JPEG compression is implemented for the camera images at fixed intervals but the image updating interval as seen from the terminal end via the network varies from one status to another.
- If the network is congested, the image updating interval is lengthened.
- Depending on the differences in the subjects, too, the file size for JPEG-compressed image differs, and the image updating interval at the terminal end changes.
- The volume of data transferred from the WEB card remains constant. This means that any improvement in the image quality or increase in size will lengthen the image updating interval for the images at the terminal end. Conversely, any decrease in the image quality or reduction in size will shorten the interval.

2) The response time is not constant.

- When the pan/tilt head and camera are controlled, the response time taken after operation until the image actually changes is not constant because of differences in the network conditions.
- Depending on the network conditions, the response may be significantly delayed.

3) Turning the WEB card's power ON and OFF

- If the WEB card's power is turned OFF while checking an image on the browser, an error message will not be displayed, and the image will be frozen.
- When the WEB card's power is turned back ON, the image may not be automatically updated, therefore the data should always be re-loaded manually.

4) Effective image area in horizontal direction

- When the camera's video output is used as the reference, the left and right edges are marginally cut off before JPEG compression is implemented.

Parts and their functions

① RST: Initial reset switch

When this switch is held down for 3 or more seconds, the settings can be reset to the factory settings. It is capable of initializing the IP address and canceling the password.

② RDY: Ready LED

When this is lighted, it means that the card is operating normally. It goes off during initialization, resetting and other such processes.

③ LINK/RX: Ethernet connection status display LED

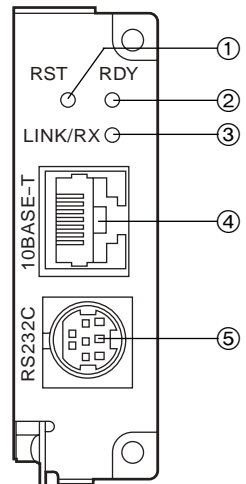
This lights when the Ethernet connector is connected; it goes off during data communication.

④ 10BASE-T: Ethernet connector

This is used for the Ethernet (10Base-T) connection. Connect a straight-type, UTP category 5 cable here.

⑤ RS232C: RS-232C serial control connector (EIA/TIA-232)

This connector is for serial control. It is connected to the pan/tilt head when the camera and pan/tilt head (such as AW-PH350) are to be controlled.



Installation *Ask your dealer to install the card in the camera.*

Bear in mind the following points when installing the card.

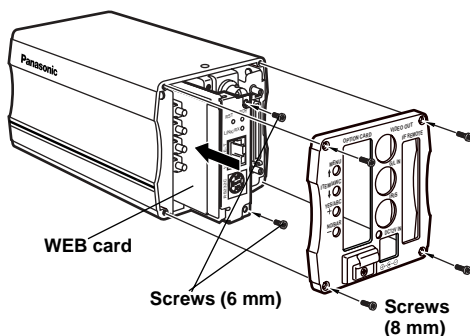
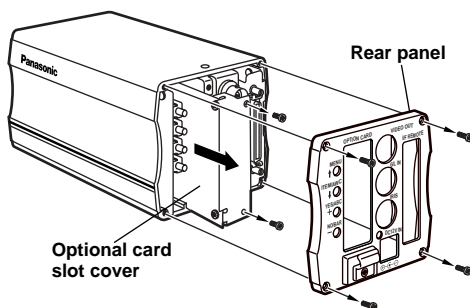
- Be absolutely sure to ask your dealer to install the card.
- Before installing the card, disconnect the camera's power supply.
- Before handling the card, touch a metal part of the camera to release any static stored in the body.

Wearing anti-static wrist straps is even safer.

Touching the card without first releasing this static may cause malfunctioning.

- Do not allow the metal parts of the card come in contact with any other metal parts.

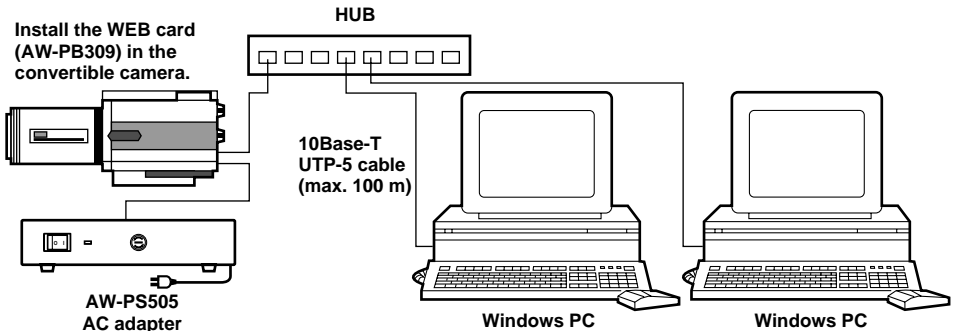
1. Turn the power to the camera off and remove the power connector and other cables from the camera.
2. Loosen the 4 screws on the rear panel of the camera, then remove the panel itself.
3. Loosen the 2 screws on the optional card slot cover, then remove the cover.
4. Align the WEB card with the guide rail at the bottom of the camera and tab at the top, and insert it. Slide it all the way in securely.
5. Secure the card using the 2 screws.
If the screws have been lost or misplaced, use the accessory screws (6 mm long) instead.
6. Firmly secure the rear panel with the 4 screws.
If the screws have been lost or misplaced, use the accessory screws (8 mm long) instead.
7. Connect the necessary cables, then plug in the power connector and turn on the power.



System upgrading

[1] Connections

An example of the basic connections is presented below.



[2] Recommended system requirements

1) Personal computer

Provide a Windows-compatible personal computer (PC) with the following performance specifications:

- Pentium III : 500 MHz or higher
- Memory size: 64MB or more
- Network interface card

2) Operating system

Provide any of the following versions of Windows:

- Windows 98
- Windows ME
- Windows 2000

3) Browser software

Provide one of the following browsers in the versions specified:

- Internet Explorer 5.5
- Netscape 4.7

<Notes>

- An adequate picture tracing performance will not be achieved if the PC's performance is too low.
- It may not be possible to achieve the prescribed performance or operation may become unstable when a Windows or browser version other than the ones recommended is used.
- Do not simultaneously install other application software (such as a word processing or spreadsheet program) in addition to the browser. Doing so may cause operation to become unstable.

- Pentium is a registered trademark of Intel Corporation.
- Windows, Windows 98, Windows ME, Windows 2000 and Internet Explorer are registered trademarks of Microsoft Corporation.
- Netscape is a registered trademark of Netscape Communication.
- Other company names or product names provided on this product are the trademarks or registered trademarks of the companies concerned.

[3] Installation and settings at the PC end

1. Install one of the recommended versions of Windows in the PC.
Follow the instructions provided with the Windows version concerned.
2. Install one of the recommended browsers by following the instructions provided with the software concerned.
3. First, set the IP address of the WEB card. Set the IP address at the PC end as described on the following page in order to make the connection with the PC in the WEB card's initial setting status.

System upgrading

The screen here shows what appears when Windows ME is used as the operating system.

- ① Right click on the desktop's My Network icon, and open Properties.
- ② Select "TCP/IP" under the Network Settings tab, and click the Properties button.



- ③ Now set the IP address and net mask.

IP address : 192.168.1.100
Net mask : 255.255.255.0

After inputting the addresses, click "OK," and restart the PC.



[4] Setting the WEB card's IP address

The following addresses were set in the WEB card before shipment:

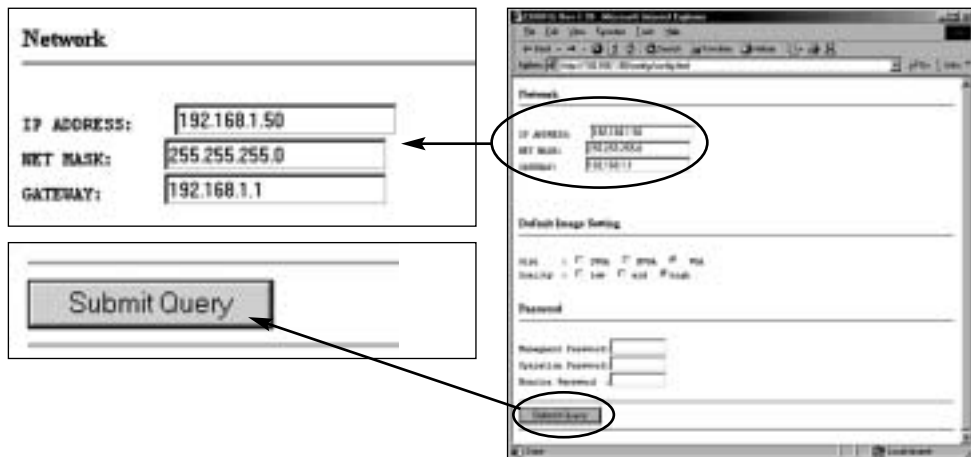
IP address : 192.168.1.50
Net mask : 255.255.255.0
Gateway : 192.168.1.1

Set the addresses in line with the network to be used by following the steps on the following page. Consult your network administrator for details on the allocation of the IP address, etc.

System upgrading

1. Start up the browser.
2. Input the following address into the browser.
<http://192.168.1.50/config/config.html>
3. A setting screen such as the one shown in the figure below now appears. Input the addresses.
4. Upon completion of the input, press the **Submit Query** button at the bottom of the setting screen.

The new IP address is set when the settings completed screen has appeared.



[5] Re-setting the PC's address

The WEB card's IP address and other settings are completed with the steps taken in the previous sections. Next, set the PC to the address of the system to be used. Consult your network administrator for details on the IP address, etc.

[6] Checking operation under the new address

The new address has been set in the PC and WEB card by following the instructions above. Input the following address into the browser, and check that the same setting screen as before appears.

[http://\(new IP address setting\)/config/config.html](http://(new IP address setting)/config/config.html)

If the setting screen fails to appear, check whether the IP address and net mask have been set correctly for both the PC and WEB card.

<Reference> Resetting method

If the WEB card's IP address cannot be identified or cannot be accessed, follow the steps below to restore the factory settings.

- While monitoring the "RDY" LED on the WEB card's panel, hold down the "RST" pushbutton switch.
- Once the "RDY" LED goes off, it means that the factory settings have been restored so release the pushbutton switch.

After resetting, perform the settings again by following the instructions from the beginning.

Image display method

Start up the browser, and input the address.

[http://\(new IP address setting\)/user/pb309.html](http://(new IP address setting)/user/pb309.html)

Images can be displayed when the following address is input in the factory setting status.

<http://192.168.1.50/user/pb309.html>

When this address is input, an image such as the one shown in Fig. 1 appears. (The image is a sample.)

HIGH is set for the image quality and VGA (640 × 480) is set for the size in the initial status.

To change the image quality or size, click the Image Control button under the image.

When this button is clicked, the window shown in Fig. 2 is opened. Now change the setting or settings.

QUALITY and SIZE on the Image Control window function as follows.

1) QUALITY

HIGH: JPEG compression rate of approximately one-sixth

MID : JPEG compression rate of approximately one-ninth

LOW : JPEG compression rate of approximately one-fifteenth

These compression rates differ from one subject to another and thus serve merely as guidelines.

2) SIZE

VGA : JPEG compression using 640 × 480 pixels

HVGA: JPEG compression using 640 × 240 pixels

QVGA: JPEG compression using 320 × 240 pixels



Fig. 1



Fig. 2

In the HVGA mode, JPEG compression is implemented in 1-field increments, and images are enlarged to twice their original size in the vertical direction and displayed by the browser. This mode is best suited to subjects which move a lot.

The quality and size in which the image is to appear when the power is turned on can be set on the Config screen. (See pages 12 and 13)

<Note>

If the "Image Display" and "Image Control" windows are open and these windows are to be exited, close each window.

(The "Image Control" window will not be automatically exited when the "Image Display" is closed.)

Config screen

A number of different settings can be performed on the Config screen.

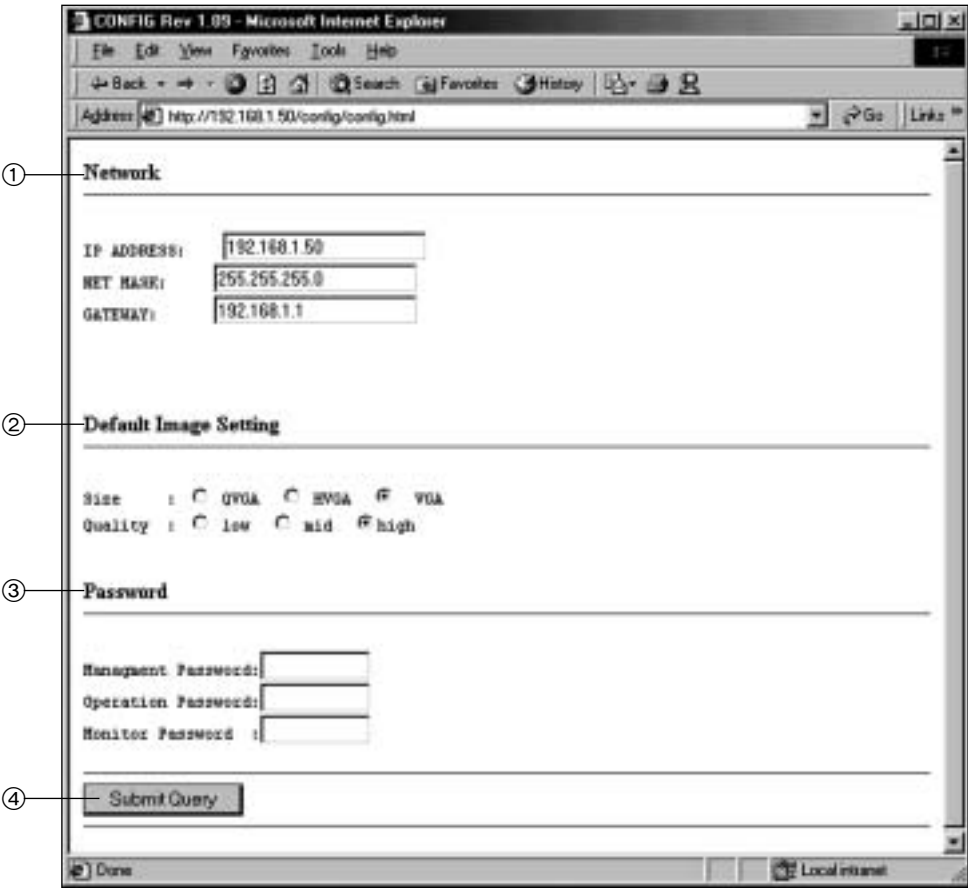
1. Start up the browser.
2. Input the following address into the browser.

http://(new IP address setting)/config/config.html

The following address is used in the factory setting status:

http://192.168.1.50/config/config.html

3. A setting screen such as the one shown in the figure now appears.



Config screen

① Network

Set the IP address, net mask and gateway address in the fields provided here.

Consult your network administrator for details on the addresses.

After setting the information, you must click the Submit Query ④ button. Bear in mind that the settings will not take effect unless this button is clicked.

Refer also to the pages on system upgrading.

② Default Image setting

Set the quality and size of the image which is to appear when the power is turned ON.

The factory settings are HIGH for the image quality and VGA (640 × 480) for the size.

The settings can be changed on the "Image Control" screen during operation.

③ Password

A three level password can be set here. For details, refer to the page on the passwords.

④ Submit Query

When the settings ① through ③ have been performed, you must click this button and check that the settings completed screen has appeared. The settings will be updated about 15 seconds after the button is clicked.

Bear in mind that the settings will not be updated if the screen is exited without pressing the button.

<Notes>

- If the settings on the Config screen are to be updated, you must make a note of these settings.
If the IP address and password cannot be identified when the WEB camera has been installed in a distant location, it will be difficult to restore the factory settings. In this event, access will be denied.
- If the IP address cannot be identified, the factory setting can be restored. Refer to "<Reference> Resetting method" on page 8.
After resetting, perform the settings again by following the instructions from the beginning.
- When the power is turned back on, the statuses set on the Config screen will take effect rather than the previous statuses even after the image quality or size has been changed on the "Image Control" screen.

Passwords

Three kinds of passwords can be set for the WEB card so that three levels of access restriction can be established.

- 1) Monitor password
- 2) Operation password
- 3) Management password

Types of passwords

Each password serves to restrict the kinds of operations that a user can perform. In terms of their functions, the management password has the highest level of authority. It is followed by the operation password and then by the monitor password which has the lowest level of authority. When one of the lower-level passwords has been set, set the higher-level password or passwords as shown in the table below. If, for instance, only the operation password has been set, it means that no restrictions will be placed on access by a user to the Config screen whose level is higher, and so the management password should also be set along with the operation password.

	Lower order	Operation password	Higher order Management password
	Monitor password		
To place restrictions on access to images	Set this password	Set this password	Set this password
To place restrictions on image quality, size, pan-tilt head and camera control	—	Set this password	Set this password
To place restrictions on access to the Config screen	—	—	Set this password

Setting the passwords

The passwords are set on the Config screen.

- 1. Start up the browser.
- 2. Input the following address into the browser.

http://(new IP address setting)/config/config.html

The following address is used in the factory setting status:

http://192.168.1.50/config/config.html

- 3. The password setting screen now appears.

Concerning the characters used to set the passwords

The following characters can be used for the passwords.

- Letters of the alphabet (differentiation is made between upper case and lower case)
 - Numerals
 - All ASCII symbols except &, ?,% and "
- Input up to 15 characters for each password.

Password

Management Password:

Operation Password:

Monitor Password :

Passwords

Types of passwords

1) Monitor password

This is used to restrict access to images.

The following window appears when an image has been accessed.



Input “monitor” into the user name field, and input the password which was set on the Config screen into the password field.

2) Operation password

This is used to restrict the following operations:

- Changing the image quality and size
- Controlling the pan/tilt head and camera

For instance, when the image quality has been changed, the following window appears.



Input “operation” into the user name field, and input the password which was set on the Config screen into the password field.

3) Management password

This is used to restrict access to the Config screen.

The following window appears when the Config screen has been accessed.



Input “management” into the user name field, and input the password which was set on the Config screen into the password field.

<Notes>

- The user can set the passwords but the user name is fixed for each of the passwords.
Example: The user name for the operation password is “operation.”
- If the password settings are to be updated, you should always make a note of the new passwords.
If a password cannot be identified, access will subsequently be denied.
In particular, if the management password cannot be identified, it will prove difficult to cancel the password itself.
- It is still possible to restore the factory settings when a password cannot be identified. However, bear in mind that all the settings will be replaced by the factory settings so that the settings will have to set again from the start. Refer to “<Reference> Resetting method” on page 8 for more details on the resetting procedure.

Passwords

The following anomalies do not indicate that something is wrong with the WEB card.

What kind of window appears differs according to the type and version of the browser used. The following anomalies may appear due to the characteristics of the browser but they do not indicate that something is wrong with the WEB card.

Type of browser	Screen/operation status	Anomaly
Netscape 4.7 or Internet Explorer 5.5	When a password has been set	The password may not be confirmed if access is made without exiting the browser. The browser should always be exited, then restarted.
Netscape 4.7	While the screen for inputting the operation password is displayed	The image updating is suspended. When the password is input, the image updating resumes.
	When more than one password has been set	The following message appears: "Certification failed. Try again?" In this case, select [YES], and input the user name and password.
Internet Explorer 5.5	When a cancel operation is performed on the screen where the operation password is set	The Image Control window goes blank. Close the window, then re-open it.
	When the wrong operation password has been input.	The Image Control window may go blank. Close the window, then re-open it.
	When the wrong monitor password has been input.	The password input window may go blank. Close the window, then re-open it.

Pan/tilt head and camera control

The pan/tilt head and camera can be controlled from the WEB card.

- The pan/tilt head that can be connected is the AW-PH350.
(A dedicated software cable is required. Contact your local dealer for details.)
- The camera that can be controlled is the AW-E300, 600 or 800A.
- Provide the AW-CA50F29 dedicated cable (optional accessory) separately for connection to the pan/tilt head.
- Since control is exercised via the network, the response time taken for the images to change after operation differs according to the network conditions, and it may be some time before the change takes effect.

Server functions

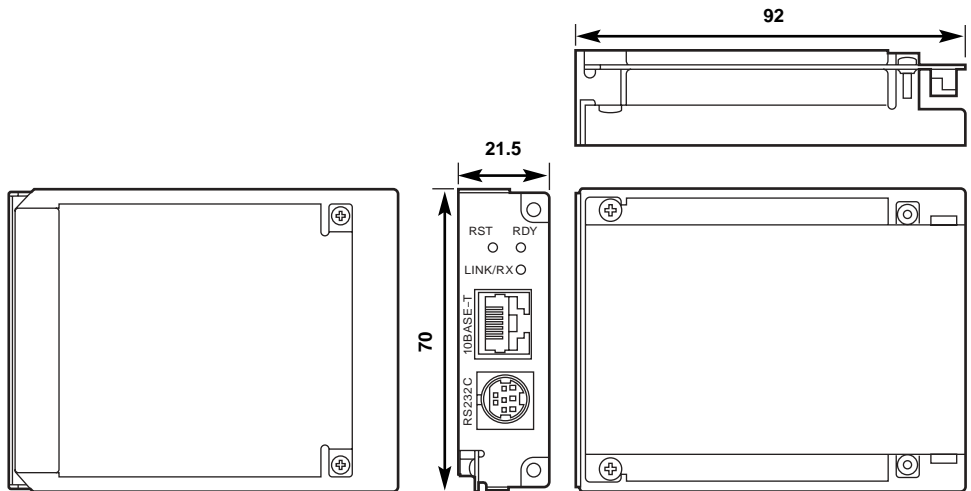
The WEB card is equipped with the following two functions:

- HTTP server
- FTP server

By creating HTML files, the user can create window backgrounds and titles.

Created HTML files can be transferred as files to the WEB card using the FTP function.

External dimensions drawing



Before requesting service

	Item	Checkpoint	Status	Remedial action
1	Power	Is the RDY LED lighted?	No	① Check whether the power adapter has been connected properly. ② Check whether the camera's power LED is lighted. ③ Check whether the WEB card has been correctly installed in the camera.
			Yes	Power is OK.
2	Communication	Is the LINK/RX LED lighted?	No	① Check that the network cable has been connected securely. ② Check that the HUB's power is ON. ③ Check that the connection has not been made to the HUB's cascade input. ④ Check that a straight type of cable is used for the UTP5 cable.
			Yes	Connection is OK.
		Is there any ping*1 response?	No	① Check the IP address again. ② Check whether the net mask has been set properly. ③ In the case of different networks, check that the gateway address has been set properly.
			Yes	Communication is OK.
3	Screen display	Is an image displayed?	No	Check that use of Java has been enabled by the browser settings.

*1 How to use the ping command

The ping command is used to check whether the PC and WEB card are connected on the network. If it is executed and there is no response, it means that the IP address or some other setting is incorrect or that a hardware fault is to blame.

Follow the steps below to execute the ping command.

1. Click [Start] on the taskbar, and then click Programs, Accessories and MS-DOS Prompt in this order (if Windows ME is used as the operating system).
2. If the WEB card's IP address is 192.168.1.50, input: **ping 192.168.1.50**
3. If the PC and WEB card are connected correctly, a response such as the one in the example below will be displayed.

e.g. Reply from 192.1.50: bytes=32 time<10ms TTL=255


4. If the PC and WEB card are not connected, a response such as the one below will be displayed.

Request timed out

Specifications and accessories

Specifications

Power supply	: DC 12 V (supplied from camera unit)
Power consumption	: 1.9 W

 indicates safety information.

Dimensions (W × H × D)	: 3-5/8" × 2-3/4" × 7/8" (92 × 70 × 21.5 mm)
Weight	: 0.22 lbs (100 g)
Image compression system	: JPEG
Image quality	: 3-level setting
Screen size	: 640 × 480, 320 × 240, 640 × 240
Image updating interval	: 15 images/sec. for 320 × 240 7.5 images/sec. for 640 × 480, 640 × 240
I/O connectors	: 10 BASE-T RJ-45 connector × 1 (connected to Ethernet 10BASE-T) RS-232C Mini DIN 8-pin connector × 1 (for camera, pan/tilt head control)
LED displays	: RDY Green LED indicating that the WEB card is operating LINK/RX Green LED indicating Ethernet connection status, flashes during communication
Switch	: RST Pushbutton switch for restoring factory settings
Usable temperature range	: 14°F to 113°F (−10°C to +45°C)
Humidity	: 30% to 90%

Accessories

Operating Instructions	: × 1
Screws (6 mm long)	: × 2
(8 mm long)	: × 4

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PANASONIC BROADCAST & TELEVISION SYSTEMS COMPANY
DIVISION OF MATSUSHITA ELECTRIC CORPORATION OF AMERICA

Executive Office:

3330 Cahuenga Blvd W., Los Angeles, CA 90068 (323) 436-3500

EASTERN ZONE:

One Panasonic Way 4E-7, Secaucus, NJ 07094 (201) 348-7621

Southeast Region:

1225 Northbrook Parkway, Ste 1-160, Suwanee, GA 30024 (770) 338-6835

Central Region:

1707 N Randall Road E1-C-1, Elgin, IL 60123 (847) 468-5200

WESTERN ZONE:

3330 Cahuenga Blvd W., Los Angeles, CA 90068 (323) 436-3500

Government Marketing Department:

52 West Gude Drive, Rockville, MD 20850 (301) 738-3840

Broadcast PARTS INFORMATION & ORDERING:

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TECHNICAL SUPPORT:

Emergency 24 Hour Service (800) 222-0741

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3 (905) 624-5010

Panasonic de Mexico S.A. de C.V.

Av angel Urraza Num. 1209 Col. de Valle 03100 Mexico, D.F. (52) 1 951 2127

Panasonic Sales Company

Division of Matsushita Electric of Puerto Rico Inc.

San Gabriel Industrial Park, 65th Infantry Ave., Km. 9.5, Carolina, Puerto Rico 00630 (787) 750-4300